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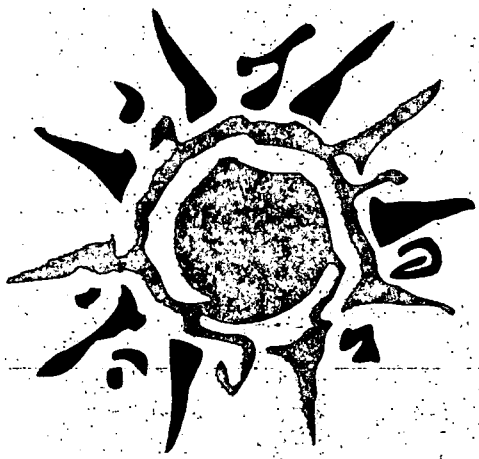
ABSTRACT

This paper presents state-of-the-art models addressing issues related to coordination of treatment and evaluation activities, and integration of clinical, performance, and evaluation information. Specifically it provides a framework for evaluation activities to be integrated within planning, management, operation, and substance abuse treatment service delivery activities. The paper is divided into four sections. Part 1 provides a context for the placement of the self-adjusting treatment evaluation model (SATEM) concept within the evaluation framework described in the Integrated Evaluation Methods Package. Part 2 includes background information on the current role of evaluation in clinical practice and the potential benefits of strengthening that role. Part 3 describes SATEM. Part 4 describes the SATEM in relation to the Center for Substance Abuse Treatment's evaluation model. Appendix A, "Integrated Evaluation Methods Package: A Guide for Substance Abuse Treatment Knowledge-Generating Activities--Executive Summary," contains a summary description of the Integrated Evaluation Methods Package, of which this paper is one component. Appendix B is "Editor's Note." (Contains 5 figure, 3 tables, and 12 references.) (MKA)

INTEGRATED EVALUATION METHODS



SELF-ADJUSTING TREATMENT EVALUATION MODEL

Revised July 1999

NEDTAC

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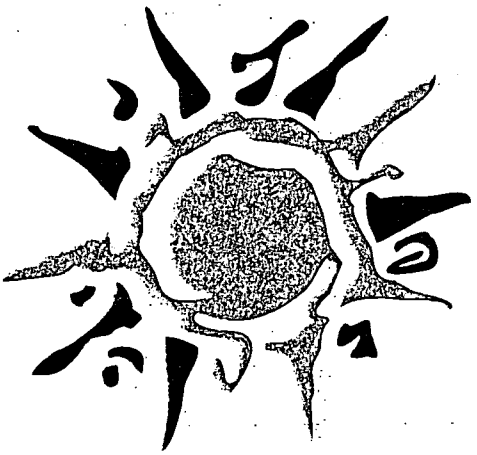
INTEGRATED EVALUATION METHODS



SELF-ADJUSTING TREATMENT EVALUATION MODEL

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FOREWORD

Over the last 10 years the Center for Substance Abuse Treatment (CSAT) has accumulated a great deal of experience in substance abuse treatment evaluation implemented through coordinating centers, cross-site efforts, and national studies. The importance and value of integrating ongoing evaluation activity into a system for treating substance abuse problems is widely recognized. Also widely recognized, however, is that current evaluation generated knowledge and practice are often under-utilized, due in part to the lack of an integrated approach to capturing information with which to measure and improve treatment effectiveness, efficiency, and performance. CSAT recognizes that such an integrated evaluation approach will more effectively support current and future knowledge generating activities.

Based on a decade of evaluation experience, CSAT has developed the Integrated Evaluation Methods (IEM) Package, a series of conceptual and methodological applications, including concept papers, technical assistance materials, and analytic tools, to enhance CSAT-funded evaluation activities. Products in the IEM Package are organized within an evaluation framework constructed on the basis of accumulated experiences among internationally known treatment service evaluation professionals. Thus, the framework is based upon evaluation strategies, structures and approaches appropriate for substance abuse treatment evaluators and providers. The framework follows a standard set of evaluation activities: planning, selecting a design, developing data requirements and collection instruments, collecting and analyzing the data, and reporting the evaluation findings. (A summary description of the IEM Package is contained in Appendix A to this document.)

This concept paper and its companion documents, *Integrated Evaluation Methods: A Guide for Substance Abuse Treatment Knowledge Generating Activities; Building Team Capability to Fully Implement and Utilize the Self-Adjusting Treatment Evaluation Model; Adding "Value" to CSAT Demonstrations*; *Performance Measurement for Substance Abuse Treatment Services*; and *Client Levels of Functioning as a Component of Substance Abuse Treatment Services Evaluation*, present state-of-the-art conceptual models addressing issues related to coordination of treatment and evaluation activities, and integration of clinical, performance and evaluation information. Specifically, this concept paper provides a framework for evaluation activities to be integrated within planning, management, operation and substance abuse treatment service delivery activities.

Sharon Bishop
Project Director
NEDTAC

ACKNOWLEDGMENTS

This paper, together with the companion documents listed in Appendix A (the Integrated Evaluation Methods Package), was developed for CSAT by the National Evaluation Data and Technical Assistance Center (NEDTAC) under the guidance and direction of Ron Smith, Ph.D., Program Evaluation Branch, Office of Evaluation, Scientific Analysis, and Synthesis (OESAS). Dr. Herman Diesenhaus, former Team Leader, Scientific Analysis Team, OESAS, contributed many conceptual ideas that have been incorporated into the package. Charlene Lewis, Ph.D., former Deputy Director, OESAS, supported this and other associated efforts, with the result that state-of-the-art evaluation concepts were incorporated into many of CSAT's and SAMHSA's evaluation initiatives. Jerry Jaffe, M.D., former Director, OESAS, also contributed his breadth of experience in the substance abuse treatment and evaluation fields and his dedication to high quality treatment services evaluation and provided the national level leadership necessary for CSAT to promulgate these activities.

Caliber Associates was the prime contractor for NEDTAC in partnership with Computech, Inc.; the Lewin Group; Capital Consulting Corporation; the Center for Substance Abuse Research (CESAR), University of Maryland; the Alcohol Research Group (ARG), Public Health Institute; the Drug Abuse Research Center (DARC), University of California, Los Angeles; and the Urban Institute. Many people within the NEDTAC team also contributed to this effort. Patricia Devine, Eric Christopherson, Sharon Bishop, Jacquelyn Lowery, Melody D. Moore and Judith Walton of Caliber Associates were responsible for development and writing of the document. Thanks are also due to Donna Caudill, Erica Gordon Sorohan, and Robin Walthour, who provided comments and suggestions for graphics and text and helped to ensure a final product of high quality.

I. INTRODUCTION

From the inception of the Office for Treatment Improvement, CSAT's predecessor agency, Dr. Jerome Jaffe and Dr. Herman Diesenhaus recognized the need for an evaluation strategy that could by used to incorporate current knowledge into substance abuse treatment programs. the need for high quality evaluation directed to treatment improvement is strongly promoted by the two seminal Institute of Medicine (1990) publications on alcohol and drug treatment systems.

CSAT program managers as well as evaluators and service providers from across the country continually reinforce what many professionals in the substance abuse treatment community have long stated:

- The quality and quantity of evaluation information need to be improved
- Training and technical assistance on evaluation are needed to support service providers
- A shared sense of direction and evaluation priorities should be established between CSAT and the treatment service providers
- CSAT should provide leadership in the substance abuse treatment field through promulgating state-of-the-art evaluation approaches and tools.

To address these needs, this paper describes CSAT's Self-Adjusting Treatment Evaluation Model (SATEM). the paper is designed to promote understanding of the Self-Adjusting Treatment Evaluation Model as well as to demonstrate its application within the treatment system.

The Center for Substance Abuse Treatment (CSAT) supports the integration of ongoing evaluation within substance abuse treatment activities so as to demonstrate treatment service effectiveness and to improve treatment services and their outcomes. To this end, CSAT recommends the use of state-of-the-are evaluation methods and tools in planning, designing, and implementing treatment services evaluations. this document provides a description of CSAT's Self-Adjusting Treatment Evaluation Model (SATEM), an approach for integrating evaluation findings within treatment operations so as to adjust and improve service delivery.

1. CONTEXT FOR THE SELF-ADJUSTING TREATMENT EVALUATION MODEL DOCUMENT

CSAT's major evaluation goals are to: (1) increase knowledge about substance abuse treatment services; (2) improve treatment services by applying knowledge gained through knowledge development and application (KD&A) activities; (3) develop analytic methods and approaches for use in knowledge-generating activities; and (4) develop substance abuse treatment analysis databases. To meet these goals, CSAT has been sponsoring KD&A initiatives including activities that focus on homelessness, marijuana use and treatment, managed care, women and violence, and opioid treatment, as well as the replicability of exemplary treatment approaches (e.g., methamphetamine treatment) and the evaluation of best practices for targeted populations (e.g., exemplary adolescent treatment).

CSAT's evaluation experiences have reinforced the fact that substance abuse treatment evaluation involves a standard set of tasks that generally occur in the following order:

- **Planning the evaluation**, which includes setting the evaluation goals and objectives that determine the overall parameters of the evaluation
- **Selecting the evaluation design**, which sets forth the overall strategy for establishing the evaluation questions, measurement approach, and generalizability of findings
- **Developing the data requirements**, which flow from the evaluation questions and measures and include SDU, clinician, cost, and client data
- **Developing data collection instruments**, which are based on the data requirements and are developed or selected from a standard inventory of instrumentation
- **Collecting the data**, which includes the development of data management processes and tools including quality control procedures, and collecting the data
- **Analyzing the data**, which involves developing an analysis plan and conducting multiple levels of comparison; the analysis process is governed by the analysis plan and intended products and target audience(s)
- **Reporting the evaluation findings**, which includes evaluation knowledge dissemination and application within field.

CSAT has directed the development of evaluation concepts, methods, and tools to support these evaluation tasks. The evaluation tasks and corresponding evaluation methods are summarized in

Appendix A, which contains a description of the Integrated Evaluation Methods (IEM) Package. A full discussion of the CSAT evaluation analytic framework and the other evaluation concepts and tools is presented in the concept paper: *Integrated Evaluation Methods: A Guide for Substance Abuse Treatment Knowledge Generating Activities.* This document and other products comprising the Integrated Evaluation Methods (IEM) Package are being made available at the Caliber Associates NEDS Web site at http://neds.calib.com.

2. HOW THIS PAPER IS ORGANIZED

This paper is organized into four sections:

- Part I provides a context for the placement of the SATEM concept within the evaluation framework described in the Integrated Evaluation Methods Package.
- Part II includes background information on the current role of evaluation in clinical practice and the potential benefits of strengthening that role.
- Part III describes the SATEM in terms of its philosophy and objectives, applicable evaluation designs and recommended process for design selection, data collection and analysis procedures, and approaches for communicating evaluation results to help improve or "self-adjust" service delivery.
- Part IV describes the SATEM in relation to CSAT's treatment evaluation model, discusses the Federal role, and describes evaluation products.

The appendices to this paper contain a summary description of the Integrated Evaluation Methods Package, of which this paper is one component, and an Editor's Note.

II. CONCEPTUAL FRAMEWORK

While there is general consensus within the substance abuse treatment field about the importance of documenting treatment outcomes, traditional evaluation approaches have not proven effective due to the complexity of treatment issues, time constraints, and resource limitations. In addition, much of the information that has been generated from evaluation of treatment services has not been incorporated into substance abuse treatment services management, operations, and delivery, or shared with the field.

1. SUBSTANCE ABUSE TREATMENT EVALUATION

The substance abuse treatment community generally agrees on the evaluation questions of greatest concern:

- Which treatment approaches are best?
- For whom?
- Under what conditions?
- At what cost?

These questions, however, too often remain unanswered for lack of sufficient evaluation activity. Substance abuse treatment systems often do not fully employ evaluation for several reasons. Some service providers fear that evaluation may result in conclusions that are critical of their service delivery. Others believe that resources devoted to evaluation irresponsibly decrease the financial resources available for essential treatment services. Still others believe that evaluation requires randomized clinical trials and potentially unethical denial of needed treatment (Diesenhaus, 1993).

Yet, incorporating effective evaluation into substance abuse treatment systems can enhance service delivery by allowing service providers to:

- Describe service delivery success and thereby help secure continued funding—or aid in attracting additional funding sources—by providing compelling evidence of the efficacy and efficiency of treatment services
- Improve day-to-day treatment operations and services and monitor the provision of treatment for appropriateness and cost-effectiveness

- Objectively match clients to the appropriate treatment strategy and assess the impact of treatment interventions

- Contribute to the development of new knowledge on underlying causes of effective treatment for substance abuse and addiction.

In fact, it is possible to conduct evaluation activities in a non-threatening ethical manner, at reasonable costs, and still yield highly useful information. The Self-Adjusting Treatment Evaluation Model (SATEM) offers a process through which continuous knowledge development and continuous improvement can take place. The model, as illustrated below, incorporates state-of-the-art evaluation techniques that emphasize maintaining a collaborative, continuous learning process, with broad dissemination and utilization of information gained to advance the substance abuse treatment field.

The Self-Adjusting Treatment Evaluation Model offers a way in which non-threatening comprehensive evaluation can occur ethically and at reasonable cost.

SELF-ADJUSTING TREATMENT EVALUATION MODEL

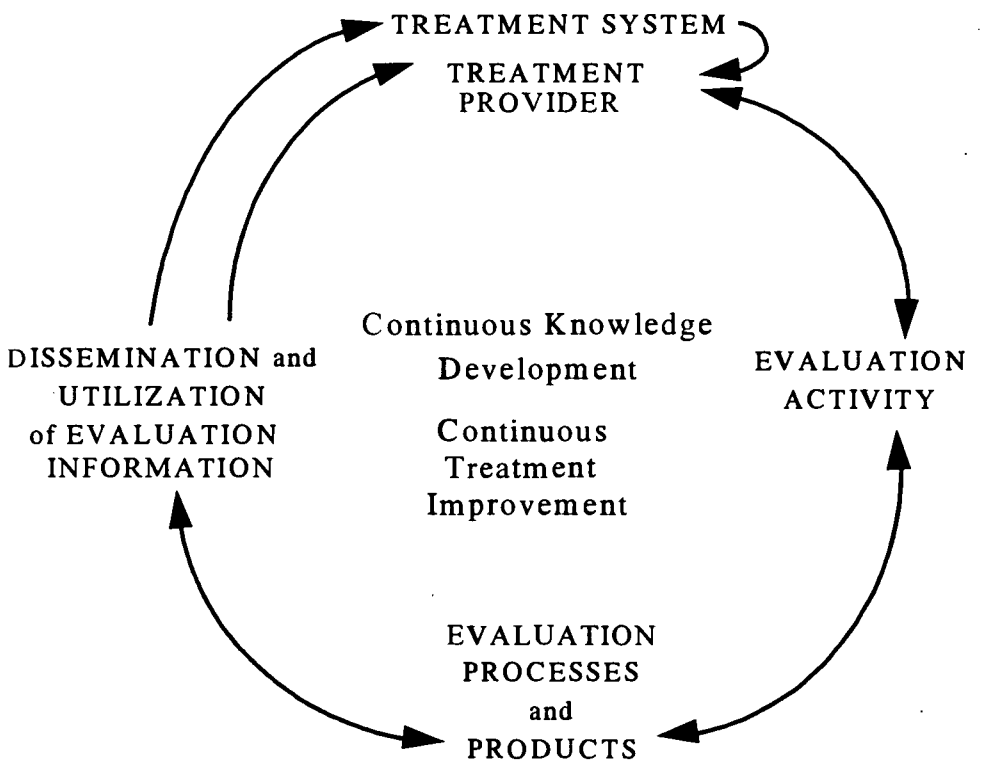


Exhibit II-1, on the following page, depicts the role of evaluation in substance abuse treatment service planning, management, and operations as they are conceptualized in the SATEM.

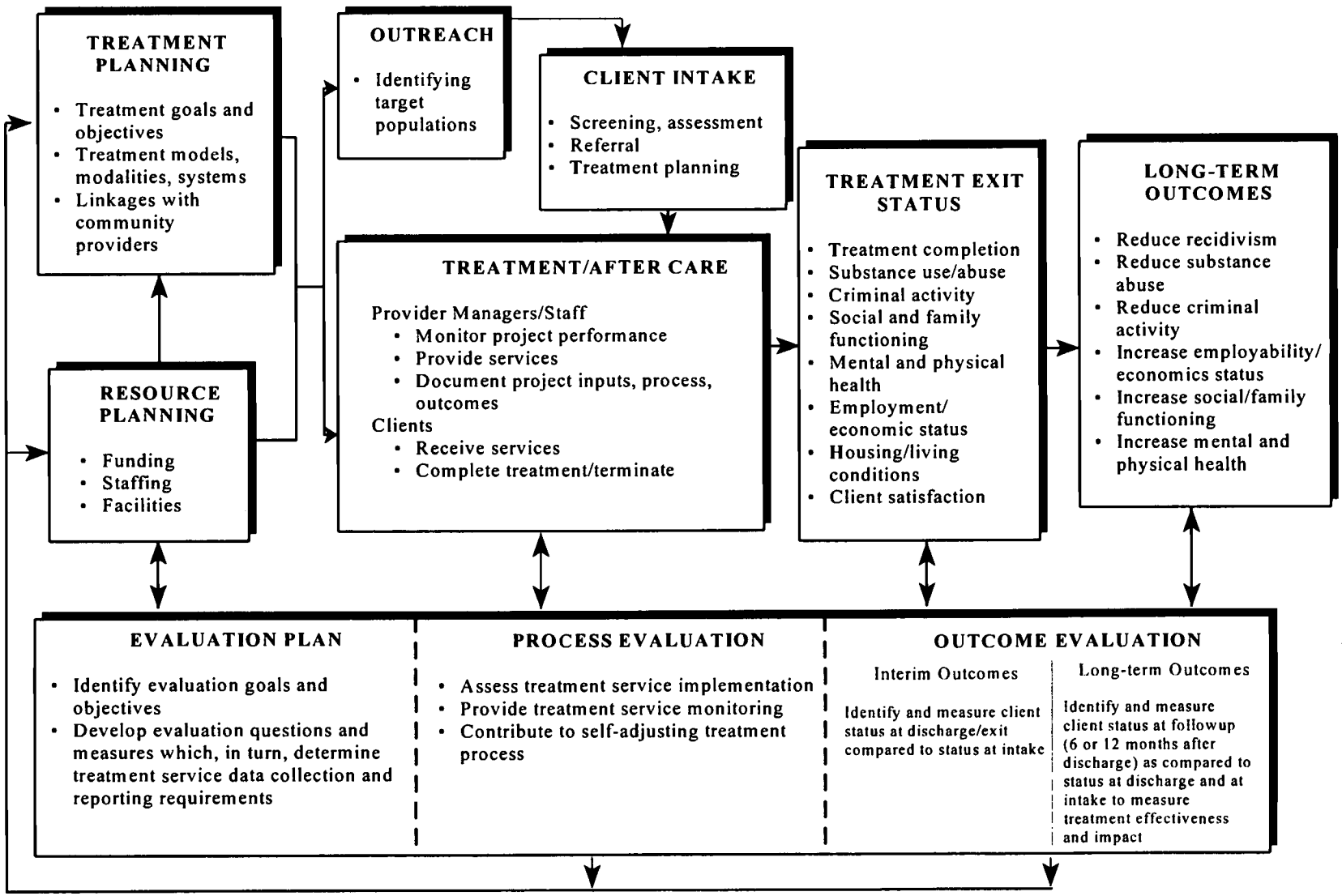
2. EVALUATION PHILOSOPHY AND OBJECTIVES

Evaluation is conducted on all types and all aspects of human service delivery systems. An evaluation may address a broad variety of important questions, including:

- What is the intervention or set of interventions?
- What is each intervention intended to accomplish?
- How are the interventions supposed to accomplish their objectives?
- Are the interventions being delivered appropriately?
- Are the interventions being delivered efficiently?
- What are the multiple impacts of the interventions, and their interrelationships, being delivered?
- How effective are the interventions?
- How can the interventions be improved?
- What treatment and services should be provided to whom, given consideration of costs, resources, and what yields the best outcomes for different groups of clients?
- What resources are required to provide optimal treatment and service to all clients?

In answering these and other questions, however, the textbook evaluation approach has long conflicted with substance abuse treatment practice. The array of interventions provided by a treatment facility often have interrelated effects on clients and/or communities, yet the complexity of the interrelated effects is often lost through traditional evaluation designs and practices. To date, most evaluation studies greatly simplify the real world complexity of treatment interventions by focusing on individual interventions, or by considering interventions one-by-one, as if the effects of each intervention occurred in relative isolation.

EXHIBIT II-1
ROLE OF EVALUATION IN TREATMENT SERVICE PLANNING, MANAGEMENT, AND OPERATIONS



In addition, evaluators have traditionally assumed the role of an "impartial observer" in order to maximize their own level of objectivity. In fact, recent opinion within the evaluation community suggests that the extent to which evaluator objectivity is actually possible has been exaggerated. Further, self-distancing makes it difficult—some say impossible—for evaluators to capture all of the important activities that affect outcomes that occur at a treatment facility. Intentionally placing distance between evaluators and service providers works against establishing a communications loop in which they help each other. Evaluators help service providers incorporate evaluation findings into treatment provision, and service providers help evaluators ensure their understanding of treatment objectives and processes, and the interrelationships among various groups within the treatment system.

The traditional "impartial observer" role may be appropriate for evaluations in which relationships between actions and results are relatively predictable, well defined, and buffered from outside influences. When applied to substance abuse treatment evaluation, this approach leads to viewing treatment as the "black box" and does not identify the various components of the treatment process and their linkage to client outcomes. Because this approach does not adequately address substance abuse treatment and the entire substance abuse treatment system, the recommended evaluation approach described below, the Self-Adjusting Treatment Evaluation Model, is quite different from traditional evaluation.

The Self-Adjusting Treatment Evaluation Model calls for evaluators to be considered as members of the treatment team, rather than "outsiders." Evaluators who are readily accessible and viewed as "insiders" more easily facilitate the self-adjustment process. Studies show that organizations are most receptive to information on organizational processes that is generated by internal or familiar sources deemed credible and trustworthy (Rist, 1994).

The self-adjusting approach to evaluation, sometimes known as "open-systems evaluation," calls for a more active and intimate relationship among evaluators, service delivery staff, and other stakeholders who may have a personal, contractual, or legal relationship with treatment clients, including:

- Friends and family members
- Employers
- Welfare agencies
- Criminal justice agencies

- Reimbursers such as insurers and government agencies
- Regulatory agencies and others who monitor legal or clinical standards
- Funding agencies.

In addition, the public and their elected representatives constitute important stakeholders.

A second component of the SATEM is an ongoing "learning community" of organizations. Most organizations emphasize maintaining the status quo, and therefore resist self-examination and change. In these organizations, learning typically takes place on an ad hoc basis, most often in response to sudden adversity. Most organizations also learn in isolation from other organizations. In contrast, organizations within a learning community collaboratively function in "a continual questioning mode," encouraging dialogue between opposing views and perspectives, fostering creativity, and seeking input and feedback from the internal and external environment (Leeuw & Sonnichsen, 1994). Learning communities develop individual and collective skills and capabilities on an ongoing basis to improve the quality of organizational questioning, facilitate "fundamental shifts of mind," and enhance the development and implementation of strategies that respond to what is learned (Senge et al., 1994).

For ongoing learning to occur, an organization must have the capacity to:

- Sense, monitor, and scan significant aspects of its internal and external environments
- Relate this information to operating norms and values
- Detect significant deviation from the norms and values
- Initiate corrective action.

The organization must also have the capacity and desire to routinely and rigorously examine basic assumptions underlying organizational policies and practices (Leeuw & Sonnichsen, 1994).

The Self-Adjusting Treatment Evaluation Model calls for:

- A more active, more involved relationship among evaluators, staff, and other stakeholders
- A collaborative learning community that fosters input and feedback, opposing views and perspectives, and creativity
- Ongoing building of skills and capabilities
- Integration of evaluation and treatment activities.

The SATEM calls for ongoing and reciprocal learning among the relevant stakeholders. This point can be illustrated by examining the evaluator's role as an example. In the SATEM, the evaluator trains administrative and clinical staff in evaluation techniques and, in turn, seeks their assistance at all stages of the evaluation to ensure that they are selecting the most appropriate evaluation design, using the most efficient data collection methods, conducting the most important analyses, and presenting findings in the most useful manner for all stakeholders. Moreover, at the request of staff or other stakeholders, the evaluator offers advice and feedback on treatment implementation and operational issues and incorporates clinicians' questions into evaluation activities. In this regard, the evaluator serves in an organizational development capacity.

In addition, the evaluator should be engaged in continuous active learning and observation of the treatment process. Through the mechanism of process evaluation and treatment implementation assessment, the evaluator learns more about clinical practices and operational needs. This understanding, in turn, informs the evaluator's interim conclusions and recommendations to improve service delivery and interpretation of outcome analyses.

This approach helps an organization:

- Build evaluation capacity
- Integrate evaluation and treatment/ clinical activities
- Leverage evaluation resources
- Focus on treatment improvement
- Enhance the value and use of evaluation findings
- Create a more effective case management mechanism for assuring that clients are provided with appropriate services in a coordinated, effective, and efficient manner.

Evaluators have important roles within the Self-Adjusting Treatment Evaluation Model that include:

- Building a trusting relationship with service delivery staff and other stakeholders
- Monitoring data collection and reporting practices
- Conducting analysis
- Interpreting findings
- Incorporating stakeholder input
- Assisting in self-adjustment based on evaluation findings.

The Self-Adjusting Treatment Evaluation Model involves developing and maintaining a bond of trust and reciprocity among all service delivery

stakeholders. Trust and reciprocity are advantageous for all treatment purposes, but they are essential if treatment staff are to view evaluators as insiders. The evaluator plays a crucial role in establishing that bond of trust. The evaluator's close geographical proximity to service delivery staff affords an opportunity, via frequent contact, to be viewed as a credible, internal source of information. Moreover, evaluators who cultivate good relations with staff gain an enhanced appreciation for the skills of clinical staff, and help build strong bridges between staff and evaluators at the state or national level.

Evaluators have other important roles within the SATEM. They monitor data collection and reporting practices, incorporate service delivery staff and other stakeholder input into evaluation practice, conduct analyses, interpret evaluation findings for stakeholders, and assist in implementing self-adjustments based on evaluation findings.

For a treatment system to actually be self-adjusting, service providers must maintain an open mind toward clinical practice and be willing to modify their practices whenever treatment evaluation yields findings that do not support current clinical beliefs and assumptions. Basing clinical practice on empirical findings helps to establish consensus among stakeholders.

Self-adjusting evaluation requires that evaluators and clinicians keep abreast of the latest major findings in:

- Biomedical, neurobiological, and sociomedical research
- Psychosocial and behavioral research
- Clinical research
- Service research and evaluation
- Other evaluation research
- Policy analyses
- Organizational development and management practices.

Relevant findings should be regularly incorporated into a treatment system's clinical practice and evaluated in terms of their impact on treatment outcomes.

III. PLANNING AND CONDUCTING EVALUATIONS

Evaluation is the systematic collection, analysis, and interpretation of data about the implementation and effectiveness of substance abuse treatment. There are many evaluation design options that range from the relatively simple to the very complex. The two basic types of evaluation, outcome and process, use different evaluation designs. Outcome evaluations assess the interim and long-term treatment outcomes. Outcome evaluation seeks to assess how successful a treatment provider has been in meeting its goals, and it also helps to answer the questions about which treatment approaches are best and how effective they are for what type of client.

Process evaluation describes treatment services, and monitors procedures to include treatment efficiency and fidelity. The process component of an evaluation calls for data to be collected on:

- Aspects of the treatment intervention(s), including theory, development, and application
- Characteristics of clients and treatment staff
- Resources
- Organizational structures
- Standard operating procedures
- Perceptions of treatment staff and participants on the effectiveness/efficiency of treatment services provided
- Internal and external factors facilitating or impeding attainment of treatment goals.

The breadth and depth of process data to be collected is driven by the key evaluation questions and honed through the evaluability assessment findings and consultation with all treatment system stakeholders.

Essential methods for outcome and process evaluators are summarized below. Beginning with the evaluation design, this section guides evaluation planning; data collection and analyses; data sources; data quality assurance; and communicating evaluation findings—all within the control of the SATEM. Additional resources that contain a detailed discussion of these methodological elements are listed in Exhibit I, Appendix A.

1. DEVELOPING THE EVALUATION DESIGN

Serving the evaluation needs of all stakeholders requires an integrated evaluation design that captures both process-related and outcome-related information. Even stakeholders primarily interested in treatment outcomes—funding agencies, for example—need process-related information to understand the factors which influence outcomes. An integrated evaluation approach allows outcome to not only be measured but also explained. When process analysis is used along with outcome analysis, process findings:

- Help clarify which components of the treatment setting would be necessary for the treatment effect to be observed again
- Reveal information about the types of participants who might be expected to exhibit the strongest or weakest treatment effects
- Suggest how the intervention should be modified to produce desirable effects more efficiently
- Contribute to basic theoretical knowledge about social behavior and social factors
- Suggest ways for an intervention that produces weak effects to be refined for re-testing
- Reveal unintended outcomes (Judd, 1987).

Summative evaluations assess outcomes and utilize outcome designs. Formative evaluations describe programs and procedures and utilize process designs. CSAT's SATEM calls for integration of the two.

Another important advantage of an integrated evaluation design is that it can offset the limitations and biases inherent in any single design and thus actually increase the chances of accurately describing processes and assessing impacts.

An integrated evaluation design should be developed with input from all stakeholders. The design should coherently tie together the many, various, and sometimes abstract steps involved in describing organizational and therapeutic processes and assessing the impact of those processes on client and community outcomes.

Furthermore, it is through a detailed process evaluation that the evaluator and other members of the evaluation team gain insight into the complex interrelationships of enigmatic

variables that affect treatment outcomes, learn the association between service delivery components, and can most readily explain anomalies in the treatment outcomes revealed by the outcome evaluation. In essence, outcomes cannot be fully explained without an understanding of the processes that yielded the outcomes.

Selection of an appropriate evaluation design should be based on findings of a pre-evaluation analysis. That analysis helps to ensure that an evaluation will be technically feasible and capable of answering the evaluation questions important to decision makers by producing a logic model and a description of evaluation options. A logic model is a tool for understanding the relationship among objectives, short term outcomes, intermediate system impacts, and long term goals for substance abuse treatment services. The logic model is a logical series of statements that link conditions, the activities that will be used to address those conditions, short term outcomes resulting from activities, and the long term impacts that might occur as multiple outcomes are achieved. The logic model provides a framework for linking services to process and outcome goals. Understanding how the sequence of provider activities (i.e., the provider's logic) and the use of resources contribute to desired outcomes forms the framework for selection of an appropriate evaluation design. This assessment clarifies for decision-makers the trade-offs between feasible approaches—such as evaluation costs versus levels of scientific rigor—so that the optimal choice can be made.

2. DEVELOPING AND IMPLEMENTING AN EVALUATION PLAN

Following selection of the evaluation design, the evaluators—in concert with key stakeholders—should develop a detailed evaluation plan. This "blueprint" for the evaluation should link the evaluation questions to data required, data sources and methods for collection and analysis, and identify evaluation products. The evaluation plan should describe:

- Theoretical framework of treatment services being evaluated
- The intervention(s) being evaluated (i.e., services provided)
- Key evaluation questions/objectives
- Analytic framework
- Specific data needed
- Sources of data

- Data collection methods and procedures
- Data collection instruments
- Analysis methods and approach
- Anticipated analytic products.

Development of the plan should include consideration of the measures that assess the extent to which the treatment services meet funding agency goals as well as any additional goals considered important by other key stakeholders. For example, one reason for a funding agency to administer a substance abuse treatment service might be to gain knowledge about the best ways to assist at-risk populations to gain access to substance abuse treatment. A treatment provider organization, therefore, would include this funding agency goal and assess the extent to which the funding agency's goal is achieved by developing a set of corresponding objectives and measures. One such objective might be to "increase the total number of outreach contacts who enter treatment by 20 percent per year." This objective would be measured by comparing the number of outreach contacts who entered treatment in the first year of the CSAT-funded activities and the number of outreach contacts who entered treatment in the year prior to the activities, and calculating the percentage of change.

The goals of key stakeholders should be considered when identifying data

The following section discusses major issues surrounding the development of a detailed data collection and analysis plan. These issues include the types of data to be collected, both qualitative and quantitative, corresponding analysis methods, potential data sources, and methods for assuring data quality.

3. TYPES OF DATA AND CORRESPONDING ANALYSES

The detailed evaluation plan usually specifies the types of data to be collected and the corresponding analyses to be conducted. Data required for evaluation usually are of two primary types: qualitative and quantitative. Qualitative data provide texture and content whereas quantitative data provide frequencies and magnitude. Examples of qualitative and quantitative data elements for substance abuse treatment evaluation are provided in Exhibit III-1. This section outlines data collection and analysis considerations for development of an evaluation plan.

EXHIBIT III-1
EXAMPLES OF DATA ELEMENTS TO BE COLLECTED FOR EVALUATION OF A SUBSTANCE ABUSE TREATMENT SYSTEM

TREATMENT ACTIVITY	EXAMPLES OF MINIMUM DATA ELEMENTS				POTENTIAL DATA SOURCES
	CLIENT		PROVIDER		
Outreach	• Demographics • Substance-using behavior • Other high-risk behavior		• # Contacts • # Staff/Volunteers	• # Referrals • Costs of outreach activities • Types of engagements	• Outreach unit records • Hotline unit records • Expenditure reports/ records
Intake	• Age • Race • Gender • Physical condition • Mental condition • Criminal justice status	• Primary abused substance • Substance abuse pattern • Family situation • Employment status • Referral source	• # Assessed • # Urine Tests • # Psychological tests	• # Admitted for treatment • # Social history evaluations • # Medical exams • Cost of intake activities	• Intake/Assessment instruments • Central Intake Unit records • Expenditure reports/ records
Treatment and Services	• Treatment plan • Treatment components • Treatment participation • Planned vs. actual services • Treatment duration • Client behaviors during treatment • Client satisfaction		• Treatment modalities offered • # Treated by modality • # Treatment plans • Capacity enrollment • Total client fees • Total treatment costs	• # beginning treatment • # discharged • # medical administration errors • # drop-outs • # relapses • Costs of each treatment activity and service	• Treatment service records • Clinical records • Client files • Client, staff surveys • Expenditure reports/ records
Exit	• Physical condition • Mental condition • Criminal justice status • Substance using behaviors • Discharge plans		• Treatment service completions • Treatment service drop-outs by reason for not completing treatment service • Costs of each discharge activity		• Discharge plan • Termination records • Expenditure reports/ records
Community Treatment System	SYSTEMS DATA ELEMENTS • Type of agreements among participating agencies/providers • Management information system (MIS) case tracking systems • Case management process and procedures				• Staff interviews • Provider interviews • Treatment service files

3.1 Qualitative Data Collection

Rooted in anthropological research, qualitative evaluators observe people and their interactions with the goal of understanding how people perceive treatment services and why treatment services have specific effects. Qualitative evaluation is inductive, its measurement tends to be more subjective, and the data are case-specific and not always generalizable. When pooled, however, qualitative data provide a "picture" of the treatment setting, and the treatment process. Qualitative data also are used to assess the treatment services implementation and whether the services were implemented, as planned. Qualitative information is usually obtained through open-ended interviews, focus groups, and observation.

3.2 Qualitative Analysis Techniques

Part art and part science, qualitative analysis requires the careful structuring of an analytic framework or approach, and the development of data categories based on review of the content of the responses to open-ended questions. While descriptive statistics can be used when qualitative data are reduced, it is important not to lose sight of the content and context of the data. In qualitative analysis, information from one respondent may be equal in importance to the information from ten, if the data provided from one member offer a special perspective or insight. Qualitative data can provide rich texture to the quantified results.

Qualitative analysis requires considerable judgement in determining the accuracy, validity, reliability, and value of the information obtained. This is assessed primarily through consistency and confirmation checks of one source against another and the assessed reliability of each of the sources. Data from secondary sources (e.g., agency statistics) are primarily useful in confirming statements made by primary sources (e.g., agency officials). This is often referred to as triangulation.

3.3 Quantitative Data Collection

Quantitative analysis uses methods from the physical sciences and includes statistical techniques to evaluate treatment service outcomes and objectives. Evaluators should include measures for both interim or intermediate outcomes and long-term outcomes.

Evaluation literature defines intermediate outcomes as changes resulting from the intervention that occurs during treatment participation, by completion of the treatment episode during aftercare or shortly following treatment completion. Interim outcomes are defined as those

changes occurring between intake and exit or termination of a treatment episode. Interim outcome data should be an integral part of an ongoing evaluation feedback cycle. Periodic discussion between evaluators and clinicians of interim outcomes data helps to ensure that evaluators correctly interpret responses to treatment and provide clinicians and treatment service managers with a swift and empirically-based opportunity to revise or "fine tune" treatment practices or approaches.

Long-term outcomes are the long-term effects of a treatment episode; the product of intermediate outcomes. These types of measures are of primary interest to stakeholders with a contractual or legal relationship with treatment clients or treatment facilities, including criminal justice agencies, reimburses, funding agencies, and legislators. Long-term outcome data, regularly disseminated to these stakeholders as part of the self-adjusting process, help ensure support for the treatment system.

Both intermediate and long-term outcome measures may target individuals, organizations, or even entire communities, depending on the nature and objective of the intervention being evaluated. At the individual level, outcome measures generally focus on the set of characteristics, attitudes, and behaviors targeted by the intervention. The difference between interim or intermediate and long-term measures at the individual level is generally the number of months past the completion of the intervention. In fact, change at the individual level is best measured by collecting data on the same measures at intake, and at exit/termination for interim outcomes and at follow-up (either 6 or 12 months after exit/termination) for long-term outcomes. The individual outcome measures typically used in substance abuse treatment program evaluation include:

- Level and type of substance use and behaviors
- Physical and mental health status
- Criminal activity and criminal justice system status
- Social and family functioning
- Education/employment status
- Housing/living conditions.

At the organization level, intermediate outcomes could include:

- Number and type of agencies with cooperative agreements for client referrals
- Percentage of clients reporting satisfaction with services received
- Services received
- Treatment completion rate
- Average length of stay
- Cost per client.

Long-term outcomes could include:

- Rate of substance abuse recidivism
- Rate of criminal recidivism
- Number of funding sources
- Level of support from public agencies and private insurers
- Level of funding.

The dividing line between intermediate and long-term outcome measures is to some extent arbitrary, yet the process of creating a division helps all stakeholders understand the treatment intervention logic and ensures that the full range of intended effects are considered for assessment.

Interim or immediate outcomes are changes occurring between intake and discharge or termination of a treatment episode.

Long-term outcomes are effects measured at follow-up (for example, 6 - 12 months after treatment exit or termination).

3.4 Quantitative Analysis Techniques

Quantitative analysis techniques range from the simple to the sophisticated. For example, descriptive analyses of surveys, records, or interview data often merely require summing numbers and calculating percentages. On the other hand, explanatory analyses are frequently based on more complex techniques such as multivariate analyses or causal modeling. Such advanced

analyses should be conducted by individuals who have both formal training in statistics as well as significant evaluation experience.

Implementation of the SATEM requires that the evaluation team be familiar with traditional as well as state-of-the-art approaches to conducting qualitative and quantitative analyses to help ensure that treatment evaluations meet the highest standards and yield useful findings at a reasonable cost. Evaluations are more likely to be properly implemented if other stakeholders are also conversant in advanced analytical techniques or if these techniques are explained in lay terms.

4. DATA SOURCES

An evaluation that assesses both processes and outcomes typically requires several data sources; therefore, data sources must be developed or identified for each substance abuse treatment service component to be included in the evaluation. For example, treatment facilities that operate a community outreach component should identify or develop data sources for data on outreach activities, as well as intake, treatment exit, and continuing care/aftercare components. Finally, data sources for follow-up must be developed or identified for evaluations designed to assess long-term outcomes.

To minimize evaluation costs, evaluators should maximize their use of pre-existing data, such as treatment service reports and records, including operational/clinical records. Nevertheless, it is often necessary to generate specific data for the evaluation to assess intermediate and/or long-term outcomes.

In designing and implementing a self-adjusting treatment evaluation, evaluators should work with treatment staff to identify credible, non-intrusive data sources. For example, evaluators frequently create new data sources by working with clinical staff to revise data collection forms to capture process or outcome data. Examples of forms which may be revised to capture process or outcome data include:

- Intake forms
- Staff rating forms
- Client self-rating forms

- Exit forms
- Post-treatment service tracking forms.

Treatment staff are generally receptive to revising their forms if they understand how doing so can enhance monitoring treatment operations and better demonstrate the effectiveness of the treatment approach to potential funding sources.

For process analysis, written documents often yield rich data on how and why a treatment approach was developed and implemented. Early in the evaluation process, funding applications, progress reports, interagency agreements or correspondence, official policies and procedures, and client records should be reviewed for potential use as evaluation data as well as to verify one's understanding of all treatment goals. Other data sources on provider processes include central intake and referral records. Additional data sources on treatment objectives and processes may be developed by conducting surveys or interviews with treatment staff or clients or by recording observations of provider operations. Open-ended questions posed to staff, via personal interviews, are particularly useful to reveal the nuances behind operating decisions and practices.

For analysis of interim outcomes, several pre-existing data sources may be tapped, including treatment records and client exit forms. New data may also be required to assess interim outcomes. Such data may be collected through surveys or interviews with clients as they leave treatment or shortly thereafter (within 1 month), or by accessing the records of other organizations such as welfare agencies, criminal justice agencies, hospitals, or schools.

Similarly, for analysis of long-term outcomes, existing records from several different sources may be utilized. For example, treatment service records on participant behaviors may serve as the data source for assessing interim outcomes while state welfare system or criminal justice systems records may serve as the data source for assessing long-term outcomes. Data sources used to assess long-term outcomes should allow for matching data elements at the intake, treatment, treatment exit, and follow-up stages. This allows assessment of changes in client conditions—for example, physical health, mental health, employment status, criminal justice status—over time.

Types of Analysis and Examples of Data Sources

Type of Analysis	Data Sources
Process Analysis	Written materials often provide insight on how and why specific treatment interventions were developed and implemented. Personal interviews in the form of open-ended questions may help to reveal nuances behind operating decisions and treatment practices.
Interim Outcome Analysis	Treatment records and client exit forms may be tapped. New data can be obtained through client surveys or interviews (within 1 month of leaving treatment), or from records of hospitals, welfare agencies, criminal justice agents, or schools.
Long-term Outcome Analysis	Existing records from several sources may be used, including State welfare and criminal justice records. Outcome data sources should allow for matching data elements at intake, during treatment, at exit, and follow-up stages in order to assess changes in client conditions over time, e.g., physical and mental health, employment status, and criminal justice status.

In addition to objective measures of interim and long-term outcomes, evaluation studies frequently collect follow-up data from clients through face-to-face interviews and/or telephone or mail surveys. Primary concerns for this follow-up data source include:

- Cost—follow-up data collection can be very costly depending on the ease of locating the clients 6 to 12 months following discharge
- Sample size—sample size must be sufficiently large to allow for missing data from hard to locate clients

- Accuracy of self-report data should be increased through use of key objective measures (e.g., urine tests to substantiate self-report of substance use).

All of these technical and procedural issues can be greatly alleviated through treatment staff/ evaluator coordination in planning and implementing follow-up data collection mechanisms early in evaluation planning. CSAT has produced tools and other aids as part of the Integrated Evaluation Methods package to help program staff and their evaluators overcome barriers to successful follow-up data collection. (See Appendix A.)

5. METHODS FOR ASSURING DATA QUALITY

Assessing the same phenomena based on more than one data source is a concept known as "triangulation of data sources." Social scientists have borrowed the term "triangulation" from the field of navigation to help describe how the use of multiple approaches to an evaluation question can enable an investigator to "zero in" on the information sought. For social scientists, the logic of triangulation applies to situations in which two or more dissimilar evaluation designs, measuring instruments, or data sources are used. The key to triangulation is the use of dissimilar methods or measures which do not share the same methodological weaknesses. If dissimilar methods produce the same findings, then the confidence about the results increases.

The SATEM helps to ensure data quality. Frequent and collaborative stakeholder interaction helps reinforce evaluation goals and benefits and treatment staff may be more motivated to collect and ensure quality data. Frequent interaction between evaluators and treatment staff can be facilitated via new technology. For example, an Internet, electronic bulletin board system or another electronic conference system would allow for swift and inexpensive communication between evaluation team members and treatment staff, though they might be physically located at different sites. The on-line system can be used to discuss problems, exchange ideas, review evaluation issues, and pose questions for immediate feedback. Moreover, an electronic management information system can be developed to allow for the ongoing reporting of data and an immediate error-checking capability and feedback cycle.

6. COMMUNICATING EVALUATION FINDINGS

The SATEM calls for frequent and widespread communication of evaluation findings so that stakeholders may make frequent and widespread use of the information to improve program operations and the delivery of services. Evaluation findings and recommendations must be easily understood if they are to ultimately enhance treatment operations and outcomes. Therefore,

evaluators must pay careful attention to both the content and format of evaluation reports and communications. Evaluators should regularly share evaluation products with stakeholders via the informal and formal mechanisms described below.

6.1 Informal Communication of Evaluation Findings

The SATEM calls for frequent and widespread communication of findings.

Informal and frequent reporting of evaluation data allows service providers to modify interventions quickly whenever evaluation data suggest either a better approach or that the current approach is less effective than desired. Informal and frequent feedback on evaluation data helps assure the integrity of the evaluation and assists evaluators in describing the evolution of treatment systems, to provide a vivid, moving image of the treatment approach rather than the traditional one-moment-in-time snapshot.

6.2 Formal Communication of Evaluation Findings

Evaluators should provide evaluation results formally through three basic media:

- An Executive Summary which highlights the key findings, conclusions, and recommendations. These summaries are generally intended for treatment system leadership to facilitate decision-making, as well as for broader distribution to other organizations and agencies—any stakeholders who may benefit from the information.

- A detailed evaluation report which documents the background and objectives of the study, the methodology used, the findings obtained, and the conclusions and recommendations reached. The detailed report is intended for use by managers and treatment staff who will want to understand how and why conclusions were reached and other evaluators who may be interested in the details of an evaluation.

- Briefing materials which synopsize the findings, conclusions, and recommendations in a briefing format. The level of detail will be similar to that presented in the Executive Summary, but designed for oral presentation, and consisting of short, up-front summaries of findings, pictorial display of data, and action-oriented conclusions and recommendations.

Development of executive summaries, evaluation reports, and briefing materials should be guided by the following general principles:

- Know the audience in terms of what information is needed and why
- Make the presentation at the appropriate level of technicality
- Enhance the credibility of findings by explaining the study methods and by using examples.

These practices help to ensure an effective use of evaluation. The IEM package summarized in Appendix A includes a compendium of outlines for evaluation products including interim evaluation reports, final evaluation reports, replication studies, case studies, and ethnographies.

IV. THE SELF-ADJUSTING TREATMENT EVALUATION MODEL AND CSAT'S EVALUATION SYSTEM

One goal of the Center for Substance Abuse Treatment (CSAT) is to increase the knowledge about substance abuse treatment and to improve treatment and treatment systems through innovative demonstrations and their evaluations. Since FY 1990, CSAT has evolved both in the depth, breadth, and focus of its demonstrations and in providing increasingly pragmatic yet scientifically rigorous evaluations. As a part of the treatment demonstration and evaluation effort, CSAT has developed and subscribed to the concept of the Self-Adjusting Treatment Evaluation Model (SATEM).

Within CSAT, the Program Evaluation Branch (PEB) serves as the focal point for developing and disseminating state-of-the-art treatment evaluation designs and methods. The SATEM is one of the principle evaluation concepts that PEB is promulgating for the evaluation of treatment services.

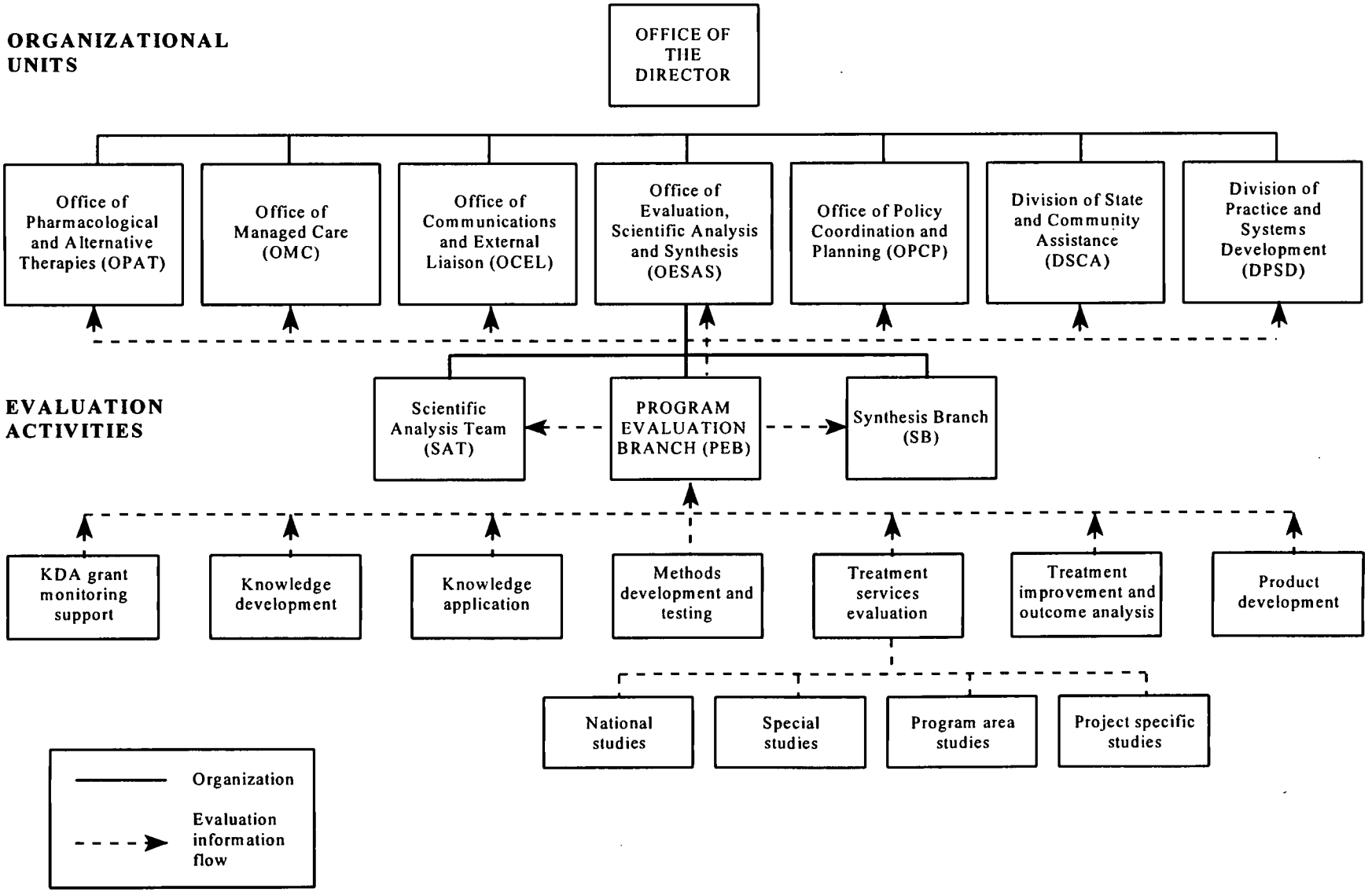
The purpose of this section is to describe CSAT's operationalization of the SATEM within an overall, integrated evaluation system. This chapter begins by providing a description of CSAT's integrated evaluation system. Also included in this chapter is a description of CSAT-recommended evaluation products.

1. CSAT'S EVALUATION SYSTEM

As a Federal leader in substance abuse treatment improvement and knowledge generation, CSAT has responsibility for creating increasingly effective treatment services, and for evaluating treatment effectiveness and cost-effectiveness, thereby adding to the body of knowledge about substance abuse treatment. CSAT program managers are responsible for designing new treatment systems, implementing these systems, and generating knowledge development and application (KD&A) activities, via CSAT demonstration grants. CSAT policy analysts and evaluation specialists are responsible for assessing the treatment efficiency and cost-effectiveness of treatment services. These CSAT staff also have more global responsibility to facilitate the application of increased knowledge about substance abuse treatment and to identify and disseminate "best practices" to the community at large.

To this end, CSAT's Program Evaluation Branch (PEB) developed and implemented an integrated evaluation system. This integrated system, graphically depicted in Exhibit IV-1, consists of the following major evaluation activities:

EXHIBIT IV-1
CSAT'S INTEGRATED EVALUATION SYSTEM



- **KD&A grant monitoring support:** PEB staff provide KD&A grant consultation to all CSAT organizational units by contributing evaluation concepts, designs, and protocols which are incorporated into the Guidelines for (Grant) Applications (GFAs); participating in local, regional, and national advisory committees for knowledge development and application activities; representing CSAT at national and regional meetings of professional associations; and providing regular, routine consultation to CSAT program managers to support KD&A grant monitoring.

- **Knowledge development:** PEB supports CSAT's substance abuse treatment knowledge development through scientific activities, such as the National Evaluation Data System efforts, which acquire national, regional, and local substance abuse treatment evaluation data sets, construct interrelational analysis data sets, and conduct analyses and meta-analyses to address treatment services effectiveness and efficacy questions and to inform Federal and local policy decisions.

- **Knowledge application:** PEB applies knowledge gained through KD&A and other analysis activities (including evaluation concepts, methods, and tools) to current substance abuse treatment KD&As and treatment services evaluations; in addition, knowledge gained from evaluations about treatment services effectiveness is applied to new CSAT initiatives through the CSAT KD&A program development process.

- **Methods development and testing:** PEB develops and tests specific concepts, methods and tools which are designed to advance the state of the art in substance abuse treatment evaluation and to enhance the quality of evaluation practice; for example, development of a cost analysis methodology to capture unit costs of different treatment services, development of an approach to identify geographic areas of greatest need for substance abuse treatment services, and development of adult and adolescent intake assessment instruments to enhance the collection of common data elements.

- **Treatment services evaluation:** PEB sponsors a wide array of substance abuse treatment service evaluations including national evaluations, CSAT program evaluations, and special evaluations. For example, the National Treatment Improvement Evaluation Study (NTIES) was designed to evaluate all FY 1991 grant funded programs, nationwide, and three cross-site evaluations were designed to evaluate specific FY 1995 CSAT programs. PEB also provided evaluation technical assistance through the National Evaluation Data and Technical Assistance Center (NEDTAC) including evaluation training, evaluation clearinghouse support, and data collection and management support through the development and implementation of automated data systems for CSAT treatment service providers.

- **Treatment improvement and outcome analysis:** in addition to national, program-wide and special evaluations, PEB sponsors analyses of national evaluation databases to address specific policy issues such as substance abuse among adolescents, substance

use patterns among older Americans, effectiveness of specific treatment services for distinctive populations, and treatment services outcomes for specific substances of abuse.

- **Product development:** all evaluation efforts supported by PEB are summarized, synthesized, and packaged for potential distribution among Federal, state, and local policy makers, service providers, researchers and evaluators, and the general public. Evaluation products are made available through clearinghouses; national, regional, and local conferences; newsletters; and websites.

In addition, CSAT's Synthesis Branch uses PEB products for broader synthesis and dissemination to the treatment field. PEB works closely with CSAT's Scientific Analysis Branch and SAMHSA's Office of Applied Studies to ensure that a full spectrum of analyses are available to the substance abuse treatment community.

2. EVALUATION PRODUCTS

The CSAT evaluation system has adopted a broad view toward evaluation products. Typically, evaluation products have included annual evaluation progress reports and final evaluation findings, conclusions, and recommendations. Other products have included briefing packets for the final evaluation report and any publications resulting from the final report.

CSAT defines evaluation products more broadly to include any data and/or documentation resulting from each phase of the evaluation process. This shift in the definition of evaluation products is primarily designed to facilitate the identification of evaluation approaches, tools, findings, and results as early as possible, so that program managers and staff can routinely integrate evaluation findings into treatment operation improvements. A secondary advantage of this approach to evaluation products is that CSAT can serve as a repository for evaluation information, methods, and results and thereby serve as a central resource to the substance abuse treatment field regarding state-of-the art evaluation activities. Currently, CSAT makes available a number of evaluation conceptual and resource materials to enhance evaluation product development. The materials are contained within the

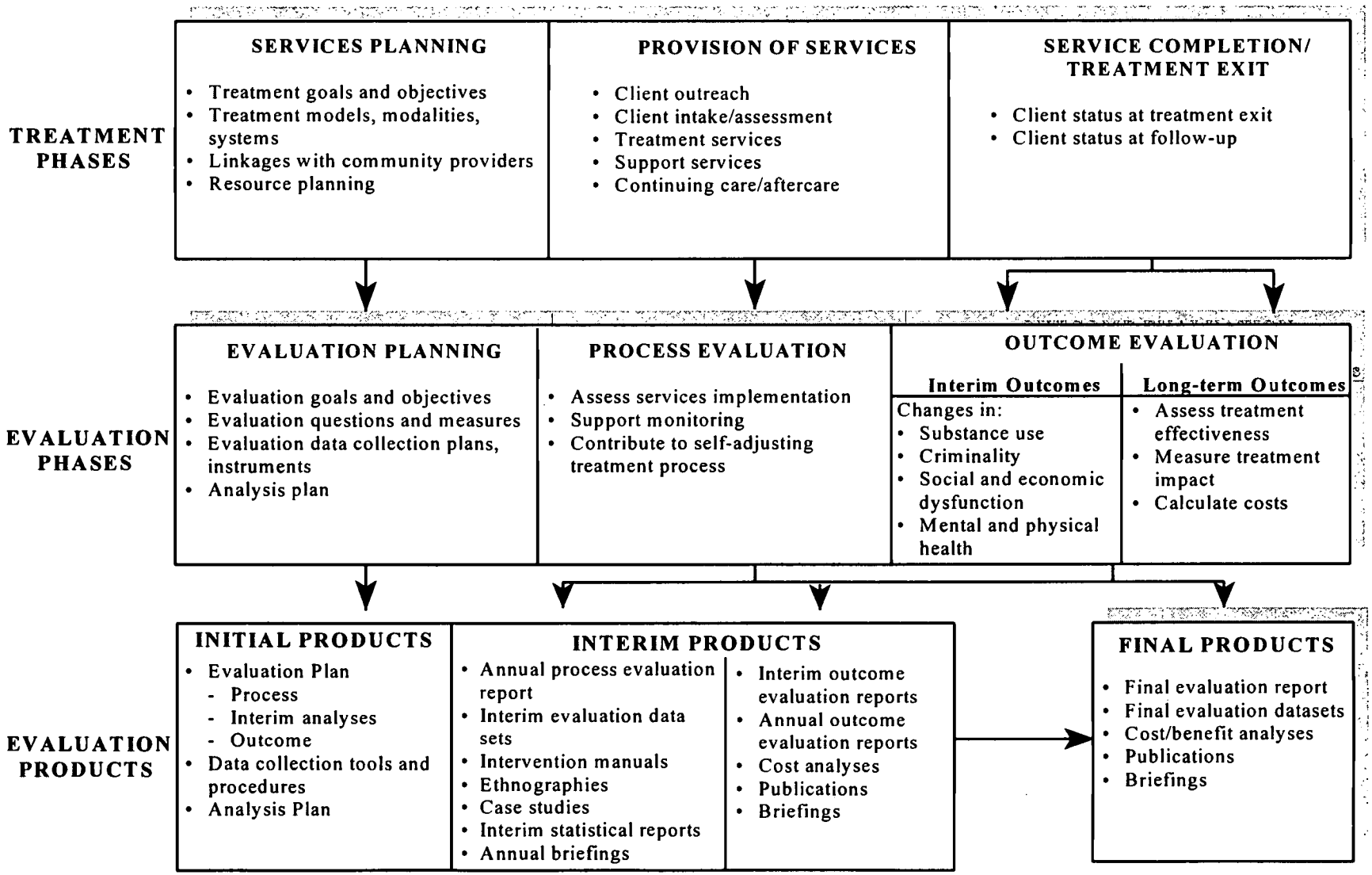
> CSAT's evaluation system has a much broader view of evaluation products than has been traditionally understood by CSAT, treatment service providers, and local evaluation management staff. Evaluation products include any knowledge gained and any systems, methods, data and or documentation resulting from each phase of the

Integrated Evaluation Methods (IEM) package, and are briefly summarized in Appendix A to this paper.

A diagram of treatment phases, evaluation phases, and corresponding evaluation products is presented in Exhibit IV-2. As shown, every major evaluation activity results in an evaluation product which is useful to CSAT and program management for the self-adjusting system and for monitoring evaluation progress. Examples of these products include:

- During the services planning and evaluation planning phases, the evaluation would provide:
  - Evaluation plans
  - Data collection tools and procedures
  - Analysis plans.
- As the evaluation is implemented and treatment services are provided, the process evaluation would be conducted. Products from this phase are:
  - Process evaluation report (interim and final)
  - Intervention manuals
  - Ethnographies, case studies
  - Interim evaluation datasets
  - Interim statistical reports
  - Progress reports, briefings, and other documents containing interim evaluation information.

EXHIBIT IV-2
EVALUATION PRODUCTS RESULTING FROM CSAT SELF-ADJUSTING TREATMENT EVALUATION MODEL



- As clients complete treatment or otherwise terminate treatment, the evaluation will capture outcome and impact data which would contribute to the following products:
  - Annual and final outcome evaluation reports
  - Final evaluation data sets
  - Cost data analyses
  - Publications
  - Briefings.

The final evaluation products would be produced at the conclusion of the evaluation study. The final products would include the final evaluation report and supporting documentation, final evaluation data sets and databases, cost analyses, publications, and final briefings.

3. SUMMARY

In 1992, with the establishment of the Program Evaluation Branch (PEB), an evaluation strategy was promulgated which pivoted on the self-adjusting treatment evaluation model. This strategy requires highly interactive evaluation and program management and administrative functions. The CSAT program area management, according to the strategy, is informed by progress reports and annual evaluation products and processes, including process evaluations of treatment implementation and interim and long-term outcome evaluations.

PEB developed the National Evaluation Data and Technical Assistance Center (NEDTAC) to institutionalize an overall evaluation system with primary responsibility for operationalizing the self-adjusting treatment evaluation model. NEDTAC developed procedures, tools, and mechanisms to assist all CSAT treatment service providers with these important evaluation concepts, principles, and methods. To assist CSAT and its treatment service providers in implementing the self-adjusting treatment evaluation model, all of the information described above was made available through training and technical assistance services. These efforts produced a series of evaluation products that will last beyond NEDTAC itself.

CSAT's Program Evaluation Branch will continue to use all of the existing evaluation products, supplemented by newly created products, to extend the value of the SATEM and maintain its integration within the overall CSAT evaluation system. These products are described in the paper entitled *Integrated Evaluation Methods: A Guide for Substance Abuse Treatment*

Knowledge-Generating Activities and combined within the Integrated Evaluation Methods package described in Appendix A to this paper. The IEM package represents a comprehensive evaluation approach which is tailored to CSAT KD&A and substance abuse treatment evaluation perspectives. The integrated methods package begins with evaluation planning and thereby insures the incorporation of the self-adjusting treatment evaluation model concepts throughout the evaluation process.

Building on the foundation laid by the NEDTAC evaluation technical assistance and support activities, PEB is supporting the national field of substance abuse treatment evaluation by promoting the standardization of evaluation concepts, methods, tools, data specification, and data collection. Through these integrated efforts, PEB is ensuring that substance abuse treatment evaluation activities are coordinated so as to yield comparable evaluation data and data analyses that will address national substance abuse treatment efficacy policy issues as well as concerns about unique populations, specific substances of abuse, and specialized treatment service approaches.

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APPENDIX A:
INTEGRATED EVALUATION METHODS PACKAGE:
A GUIDE FOR SUBSTANCE ABUSE TREATMENT
KNOWLEDGE-GENERATING ACTIVITIES—EXECUTIVE SUMMARY

APPENDIX A:
INTEGRATED EVALUATION METHODS PACKAGE:
A GUIDE FOR SUBSTANCE ABUSE TREATMENT
KNOWLEDGE-GENERATING ACTIVITIES—EXECUTIVE SUMMARY

Since its inception, the Center for Substance Abuse Treatment (CSAT) has provided Federal leadership to improve substance abuse treatment accessibility, effectiveness, and efficiency. CSAT's mission and activities have evolved from directly supporting treatment services to supporting knowledge-generating activities. This evolution is evident in the current Substance Abuse and Mental Health Services Administration policy on evaluation as described in *Evaluation Policy*, SAMHSA, 1995.

The need for an integrated model of evaluation and planning at SAMHSA is presented in "Evaluation in the Substance Abuse and Mental Health Services Administration," *Evaluation and the Health Professions*, by Marsh, Jansen, Lewis, & Straw, 1996. CSAT also supports site-specific, cross-site, and national evaluations that have provided experience with a wide array of evaluation design and implementation methods. These experiences further supported the need for an integrated evaluation strategy and led to the development of a comprehensive set of evaluation products, including concept papers, technical assistance (TA) materials, and analytic tools. Collectively, these products are referred to as the Integrated Evaluation Methods (IEM) Package. The IEM Package organizes these products within an evaluation framework that is designed to support CSAT knowledge development and application goals. The evaluation framework itself was constructed on the basis of accumulated experiences among internationally known treatment service evaluation professionals. The IEM Package reflects and incorporates evaluation experiences gained over the past decade.

Evaluation Framework and the Integrated Evaluation Methods Package

National evaluation experiences have reinforced the fact that substance abuse treatment evaluation involves a standard set of tasks that generally occur in the following order:

- **Planning the evaluation/knowledge-generating activities**, which includes selecting the substance abuse treatment issue, identifying the theoretical foundation for the intervention, determining knowledge development program goals and implementation approach, and setting the evaluation goals and objectives that determine the overall parameters of the evaluation

- **Selecting the evaluation design**, which sets forth the overall strategy for establishing the process and outcome evaluation questions, measurement approach, and generalizability of findings

- **Developing the data requirements**, which flow from the evaluation questions and measures and include: SDU, clinician, cost, and client data

- **Developing data collection instruments**, which are based on the data requirements and are developed or selected from an integrated inventory of instrumentation

- **Collecting the data**, which includes developing data management processes and tools (including quality control procedures) and conducting the data collection activities

- **Analyzing the data**, which involves multiple levels of comparison and is governed by an analysis plan

- **Reporting the evaluation findings**, which includes evaluation knowledge dissemination and application within the field.

The evaluation process outlined above provided a framework for the development of products related to these evaluation concepts and methods. Taken together, those products comprise the IEM Package.

Integrated Evaluation Methods Products

CSAT requested the development of a series of evaluation concept papers, TA materials, and tools to support and operationalize each phase in the evaluation of substance abuse treatment knowledge-generating activities. These items are included in the IEM Package. The concept papers are based on theoretical evaluation research constructs that have been adapted to substance abuse treatment services evaluation and knowledge-generating activities. The concept papers primarily support the evaluation planning phase and address such topics as the self-adjusting treatment evaluation model, cost analyses, and performance measurement. The TA materials and tools include specific evaluation methods that have direct applicability to substance abuse treatment knowledge-generating activities. The concept papers and TA materials that constitute the IEM Package are listed and briefly described in Exhibit I.

EXHIBIT I
EVALUATION FRAMEWORK AND INTEGRATED EVALUATION METHODS PACKAGE

EVALUATION FRAMEWORK	INTEGRATED EVALUATION METHODS PRODUCTS
1. Planning the evaluation/ knowledge-generating activities	■ **Integrated Evaluation Methods: A Guide for Substance Abuse Treatment Knowledge Generating Activities:** Concept paper that describes the development of an evaluation framework, evaluation concepts, and TA materials to support the framework. ■ **Self-Adjusting Treatment Evaluation Model:** Concept paper that describes an approach for integrating evaluation findings within treatment operations so as to adjust and improve service delivery. ■ **Building Team Capability to Fully Implement and Utilize the Self-Adjusting Treatment Evaluation Model:** Concept paper to assist treatment providers in building capabilities to integrate the self-adjusting treatment model within day-to-day operations and service delivery. ■ **Adding "Value" to CSAT Demonstrations:** The What, How and Why of Cost Analysis: Concept paper on the need for and types of cost analyses for CSAT demonstrations and knowledge-generating activities. (The Lewin Group) ■ **Performance Measurement for Substance Abuse Treatment Services:** Concept paper about the increasing importance of provider performance measurement and analyses and an explanation of the case-mix adjustment methodology. ■ **Client Levels of Functioning as a Component of Substance Abuse Treatment Services Evaluation**: Description of the rationale and methods for assessing client level of functioning and recommended core LOF data elements that could help to measure the effectiveness of treatment services received. ■ **Substance Abuse Treatment Evaluation Policy Notebook:** These materials are aimed at facilitating understanding of the SAMHSA policy for evaluation and federal regulations on client confidentiality and assisting evaluators to meet CSAT evaluation requirements. ■ **Substance Abuse Treatment Evaluation Resource Notebook:** The notebook contains evaluation bibliographies and listings of organizations, hot lines, on-line data bases, and contact information for obtaining assistance in evaluating treatment services.
2. Selecting the evaluation design	■ **A Guide to Process Evaluation for Substance Abuse Treatment Services:** TA tool presenting purposes of process evaluation and the application of process evaluation methods to single site and multi-site treatment services. ■ **Using Logic Models in Substance Abuse Treatment Evaluations:** TA tool describing logic model purposes and techniques for designing and planning the evaluation of treatment services. ■ **A Guide to Selecting an Outcome Evaluation Design for Substance Abuse Treatment Evaluations:** TA tool describing overall strategies for developing evaluation questions, measurement, controls, validity/reliability, sampling, design effects, and generalizability of findings. (Battelle)

EXHIBIT I (CONTINUED)
EVALUATION FRAMEWORK AND INTEGRATED EVALUATION METHODS PACKAGE

EVALUATION FRAMEWORK	INTEGRATED EVALUATION METHODS PACKAGE
3. **Developing data requirements**	■ **Minimum Evaluation Data Set (MEDS): Core Data Lists:** TA tool for developing a uniform set of variables and response categories for the service delivery unit (SDU), clinician, cost, and client evaluation measures. ■ **Substance Abuse Treatment Cost Allocation and Analysis Template (SATCAAT):** User manual to analyze treatment costs by unit of service for an SDU. (Capital Consulting Corporation)
4. **Developing data collection instruments**	■ **Substance Abuse Treatment Services Evaluation Data Collection Instruments:** Data collection instruments that fully incorporate the MEDS and that have been field tested for validity and reliability, as follows: Service Delivery Unit (SDU) Description; Clinician Background and Practice Survey; protocols to collect Adult, Adolescent and Child (in treatment with parent) Client Data at Intake, During Treatment, at Treatment Discharge and Post Treatment; Adult and Adolescent Record Extraction forms; and a section on protection of human subjects and informed consent.
5. **Collecting the data**	■ **Staying In Touch: A Fieldwork Manual of Tracking Procedures for Locating Substance Abusers for Follow-up Studies (UCLA):** User manual to establish and implement client follow-up data collection systems and procedures. ■ **Strategies for Follow-up Tracking of Juvenile, Homeless, and Criminal Justice System-Involved Substance Abusers: Overview and Bibliographies, 1990-1998:** Description of tracking techniques used to increase response rates for follow-up interviews with homeless and juvenile/criminal justice involved substance abusers.
6. **Analyzing the data**	■ **A Guide to Substance Abuse Treatment Evaluation Data Analysis:** Recommended methods and procedures for analyzing process, SDU, clinician, cost, and client evaluation data.
7. **Reporting the evaluation findings**	■ **Substance Abuse Treatment Evaluation Product Outlines Notebook:** Compendium of outlines for evaluation products including evaluation plans, interim evaluation reports, final evaluation reports, replication studies, case studies, and ethnographies.

CSAT Evaluation "Stakeholders"

Evaluation "stakeholders" are individuals, groups, or organizations that have a significant interest in how well a program or activity functions. (See P.H. Rossi, H.E. Freeman, & M.W. Lipsey, *Evaluation: A Systematic Approach, 6th Edition*, 1999.) Within the context of the IEM Package, CSAT evaluation stakeholders include CSAT senior managers, CSAT project officers, and CSAT grantees and contractors including treatment service providers, coordinating centers, study sites, site-specific evaluators, and national evaluators.

Utility of the IEM Package for CSAT Evaluation Stakeholders

While the conceptual and TA materials were developed from the perspective of the site-specific and multi-site evaluator, the concepts and TA tools have important utility for CSAT managers, project officers, and treatment service providers. The stakeholder's position determines the perspective and utility of the IEM Package concepts and tools. For example, a CSAT senior manager can use the IEM Package to acquire a comprehensive evaluation context for planning and funding the knowledge-generating activities, the project officer can use the IEM Package to ensure that GFA/RFP applications are complete and include a full complement of design, execution, and product components, and the site-specific and multi-site evaluators can use the IEM Package to ensure that evaluation designs, data collection plans, data analyses, and product development have a consistent evaluation framework and compatible data across program areas. The suggested utility of the IEM Package for CSAT evaluation stakeholders is summarized in Exhibit II.

EXHIBIT II
UTILITY OF IEM PACKAGE FOR CSAT EVALUATION STAKEHOLDERS

STAKEHOLDERS	ROLES AND RESPONSIBILITIES	IEM PACKAGE UTILITY
SENIOR MANAGERS	■ Policy development ■ Issue identification for KD&As ■ Grant/contract funding decisions ■ Overall program management ■ Sustainability ■ Dissemination ■ Long-term strategic planning ■ Program designs ■ KA activities	■ Comprehensive evaluation framework ■ Comprehensive evaluation components ■ Roles and responsibilities for local/national evaluators as well as CSAT/grantee staffs ■ Guidance for evaluation designs and products ■ Standardized evaluation measures ■ Logic models for program and evaluation design
PROJECT OFFICERS	■ GFA/SOW development ■ Grant/contract application review ■ Grant/contract monitoring ■ Knowledge-generating products ■ Identification and replication of promising practices ■ Technical assistance assessment	■ Guidelines for high-quality evaluation designs (process and outcome) ■ Logic models for program and evaluation designs ■ List of evaluation measures with instrumentation ■ Guidelines for evaluation products
GRANTEES: STUDY SITES	■ Grant applications ■ Project development, implementation ■ Local evaluation management ■ Local evaluation coordination ■ Knowledge-generating product development	■ Evaluation plan outline ■ Process and outcomes evaluation designs ■ SDU, clinician, cost, and client measures ■ Roles and responsibilities for grantee provider/evaluator staff ■ Guidelines for evaluation products
GRANTEES: MULTI-SITE EVALUATORS	■ Grant applications ■ Comprehensive evaluation designs ■ Evaluation implementation: – Data collection – Data analysis – Reporting evaluation findings ■ Evaluation product development	■ Evaluation concepts ■ Logic models ■ Evaluation designs ■ Evaluation data requirements ■ Data collection instrumentation ■ Data collection process and procedures ■ Data analysis ■ Product development
NATIONAL EVALUATORS/ SERVICES RESEARCHERS	■ Contract applications ■ Comprehensive evaluation designs ■ Evaluation implementation: – Data collection – Data analysis – Reporting evaluation findings ■ Evaluation product development	■ Evaluation concepts ■ Logic models ■ Evaluation designs ■ Evaluation data requirements ■ Data collection instrumentation ■ Data collection process and procedures ■ Data analysis ■ Product development

IEM products and other evaluation materials may be obtained from:
http://neds.calib.com

APPENDIX B:
EDITOR'S NOTE

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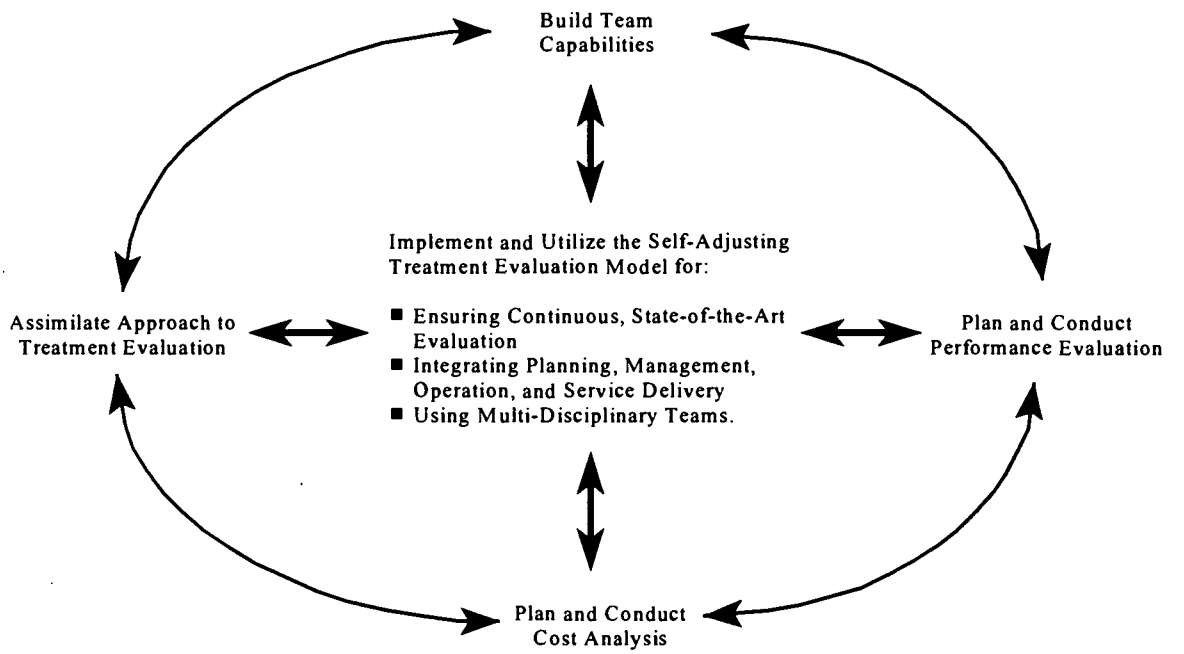
This document is one of a series of papers that describe CSAT's approach to substance abuse treatment evaluation. The graphic below illustrates the continuous evaluation knowledge development and application process which characterizes CSAT's approach. At the core is the self-adjusting treatment evaluation model which is the foundation. The model integrates continuous, state-of-the-art evaluation with planning, management, operation, and service delivery within a multi-disciplinary learning community. Implementation of this model requires building of team capabilities, appropriate, state-of-the-art performance evaluation and cost analysis, and assimilation of CSAT's integrative approach to treatment evaluation and integrative methodologies. Each of these processes work together to ensure continuous improvement.

ENSURING CONTINUOUS EVALUATION KNOWLEDGE DEVELOPMENT AND APPLICATION



Substance abuse treatment providers are increasingly called upon to demonstrate that they are delivering appropriate services, that those services have the desired impact, and that the services justify the costs. An ongoing process of evaluation and systems/services improvement integrated into the day-to-day operation of treatment providers is needed to do so. In addition, the evaluation and improvement process requires a multi-disciplinary team that includes treatment personnel, evaluators, Federal and State agencies, advocacy groups, funding agencies, and the community. Building team capability is integral to this approach. Treatment staff must be involved in knowledge development and application (i.e., planning and implementing evaluation efforts, incorporating changes in response to new knowledge, and sharing of findings).

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